

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-26 (cancelled).

27. (New) A starting device for an internal combustion engine, having a switching control device for controlling a starter motor, the switching control device comprising:

at least one power switching module which connects the starter motor to a voltage source, and which is activated via at least one control line assigned to at least one of: i) the at least one power switching module, and, ii) at least one control stage assigned to the at least one power switching module;

control electronics configured to control the at least one power switching module;

a release device which records a power flow of the internal combustion engine, and which is configured so that, when there is no frictional connection between the internal combustion engine and a power train assigned to the internal combustion engine, the release device makes available, on a release signal channel, a release signal for releasing an activating switching procedure by the at least one control line, the release device including a first release switching channel working independently of the control electronics, and a second release switching channel working together with the control electronics, the first and second release switching channels being configured so that an initiation of the activating switching procedure takes place only during simultaneous release switching setting of the first and second release switching channels; and

a diagnosis device which is configured so that, at an ending of making available the release signal for the activating switching procedure by the release device, the diagnosis device records a switching setting representing a release switching setting of the first release switching channel.

28. (New) The starting device as recited in claim 27, wherein the first release switching channel is a hardware release switching channel.

29. (New) The method as recited in claim 27, wherein the second release switching channel is a software release switching channel controlled via a microcomputer of the control electronics.

30. (New) The starting device as recited in claim 27, wherein the diagnosis device includes at least one A/D transformer for recording the release switching setting.

31. (New) The starting device as recited in claim 27, further comprising:

at least two power switching modules connected in series, the diagnosis device collaborating with the control electronics, and being configured so that, at an ending of making available the release signal for the activating switching procedure, the diagnosis device does not deactivate at least one of the power switching modules via the control electronics, and for the diagnosis of first release switching channel, the diagnosis device records a switching state of at least one of the control line and the at least one control stage, of the not-deactivated power switching module via diagnosis lines of the diagnosis device, the diagnosis device configured so that diagnosis device monitors a

switching off of an output of the at least one control stage upon the ending of making available the release signals.

32. (New) The starting device as recited in claim 30, wherein the diagnosis device is part of the control electronics.

33. (New) The starting device as recited in claim 30, wherein the at least one A/D transformer is for recording control of the power modules.

34. (New) The starting device as recited in claim 31, wherein the diagnosis device is configured so that, in response to sequential starter motor controls for the internal combustion engine, at the ending of making available the release signal for the activating switching procedure, in comparison to the preceding starting procedure, in each case the diagnosis device does not deactivate at least one other power switching module.

35. (New) The starting device as recited in claim 32, wherein the diagnosis device includes a selecting device by which a controlled non-deactivation of power switching modules takes place in response to sequential starting motor activations according to a predefined non-deactivating sequence.

36. (New) The starting device as recited in claim 27, wherein the diagnosis device is configured so that, when recording an active switching state on one of the at least one control lines, after the ending of making available the release signal, the diagnosis device initiates a deactivation of all of the at least one power switching modules.

37. (New) The starting device as recited in claim 27, wherein the diagnosis device is configured so that, when recording an active switching state on one of the at least one control lines, after the ending of making available the release signal via the control electronics, the diagnosis device activates a warning signal transmitter.

38. (New) The starting device as recited in claim 37, wherein the warning signal transmitter is a warning light.

39. (New) The starting device as recited in claim 27, wherein the diagnosis device is configured so that, when recording an active switching state on one of the at least one control lines, after the ending of making available the release signal, the diagnosis device induces an entry to be made of a data sequence assigned to an error in a storage medium that can be read out.

40. (New) The starting device as recited in claim 27, further comprising:

a rotational speed sensor collaborating with the release device for recording running of the internal combustion engine.

41. (New) The starting device as recited in claim 27, wherein the release signal channel is configured so that, as a function of a first operating parameter of the internal combustion engine, the release signal channel makes available the release signal for the release of the activating switching procedure, and wherein the release device further includes an additional release signal channel, which is configured so that, as a function of a second operating parameter of the internal combustion

engine, the additional release signal channel makes available an independent release signal which is recorded by the control electronics.

42. (New) The starting device as recited in claim 41, wherein the second operating parameter represents at least one of a running of the internal combustion engine and a functional connection of a transmission for the internal combustion engine.

43. (New) The starting device as recited in claim 41, wherein the release device includes at least one frictional connection sensor configured to record a frictional connection between an engine and a transmission or a power train of the internal combustion engine, as one of the operating parameters.

44. (New) A method for starting an internal combustion engine using a starter motor, in which a switching control device controls the starter motor, the switching control device including at least one power switching module that connects the starter motor to a voltage source, a power switching module configured to be activated at least one of via at least one control line assigned to the at least one power switching module, via at least one control stage assigned to the at least one power switching module, and a control electronics which controls the at least one power switching module, the method comprising:

recording, by a release device of the switching control device, a power flow of the internal combustion engine;

making available a release signal for releasing an activating switching procedure by the at least one control line, at a time when there is no frictional

connection between the internal combustion engine and a power train assigned to the internal combustion engine;

switching, by a first release switching channel of the release device, as a function of the release signal, the first release switching channel working independently of the control electronics;

switching, by a second release switching channel of the release device, as a function of the release signal, the second release switching channel collaborating with the control electronics;

initiating, by the first and second release switching channels, the activating switching procedure only when there is a simultaneous release switching setting of the first release switching channel and the second release channel; and

at an ending of making available the release signal for the activating switching procedure by the release device, recording, by a diagnosis device of the switching control device, a switching setting representing a release switching setting of the first release switching channel.

45. (New) The method as recited in claim 44, wherein the diagnosis device records the release switching setting via at least one A/D transformer.

46. (New) The method as recited in claim 44, wherein:

the at least one power switching module includes at least two power switching modules connected in series;

the diagnosis device collaborates with the control electronics;

at the ending of making available the release signal for the activating switching procedure, the diagnosis device does not deactivate at least one of the at least two power switching modules via the control electronics;

for a diagnosis of first release switching channel, the diagnosis device records the switching state of the at least one of the control line and the control stage of the not-deactivated power switching module via diagnosis lines of the diagnosis device; and

the diagnosis device monitors a switching off of an output of control stage upon the ending of making available the release signal.

47. (New) The method as recited in claim 46, wherein the diagnosis device, in response to sequential starter motor activations for the internal combustion engine, at the ending of making available the release signal for the activating switching procedure, in each case does not deactivate at least one other power switching module.

48. (New) The method as recited in claim 47, wherein a selection device of the diagnosis device undertakes a controlled non-deactivation of the power switching modules in response to the sequential starting motor activations according to a predefined non-deactivating sequence.

49. (New) The method as recited in claim 44, wherein the diagnosis device initiates a deactivating of all power switching modules in response to the recording of an active switching state after the ending of making available the release signal via the control electronics.

50. (New) The method as recited in claim 44, wherein:
in response to a recording of an active switching state after the ending of making available the release signal via the control electronics, the diagnosis device activates a warning signal transmitter.

51. (New) The method as recited in claim 50, wherein the warning signal transmitter is a warning light.

52. (New) The method as recited in claim 44, wherein upon recording an active switching state after the ending of making available the release signal via the control electronics, the diagnosis device stores a data sequence assigned to an the error in a storage medium that collaborates with the control electronics and is able to be read out.

53. (New) The method as recited in claim 44, wherein the release device collaborates with a rotational speed sensor for recording a running of the internal combustion engine.

54. (New) The method as recited in claim 44, wherein the release device includes a release signal channel, which as a function of a first operating parameter of the internal combustion engine, makes available the release signal for the release of the activating switching procedure, and further includes an additional release signal channel, which, as a function of a second operating parameter of the internal combustion engine, makes available an independent second release signal, which is recorded by the control electronics.

55. (New) The method according to claim 54, wherein the first operating parameter represents at least one of a running of the internal combustion engine, and a frictional engagement of a transmission of the internal combustion engine.

56. (New) The method according to claim 54, wherein the first operating parameter represents at least one of a

running of the internal combustion engine, and a frictional engagement of a transmission of the internal combustion engine.

57. (New) The method as recited in claim 44, wherein the release device records, as one of the first and second operating parameters, the frictional connection between an engine and a transmission or power train of the internal combustion engine.

58. (New) A starting device for an internal combustion engine, comprising:

a control device configured to control a starter motor via at least one power module having an assigned control stage, control logic, and a release device, the release device being configured to detect a non-present frictional connection of the internal combustion engine to a transmission and to release via a release switching channel the control of the starter motor via the control electronics, and redundantly release the control of the starter motor via an additional release switching channel that is independent of the control electronics;

a diagnosis device configured in such a way that a function of the release switching channel that is independent of the control electronics is tested in such a way that, upon departure of a release signal of the release device, the control of a power module is still maintained by the control electronics and an ability of the power module to be switched off is checked in an entire chain of effectiveness via the release switching channel that is independent of the control electronics.

59. (New) A method for starting an internal combustion engine using a starter motor, comprising:

controlling the starter motor via a switching control device, the control of the starter motor taking place via at least one power module having an assigned control stage and the control logic;

detecting by a release device, a non-present frictional connection of the internal combustion engine to a transmission;

releasing, by the release device via a release switching channel, a control of the starter motor via a control electronics;

redundantly releasing, by the release device, the control of the starter motor via an additional release switching channel that is independent of the control electronics;

checking a function of the release switching channel that is independent of the control electronics;

upon departure of a release signal of the release device, maintaining the control of the power module by the control electronics; and

checking an ability to be switched off of the power module in the entire chain of effectiveness via the release switching channel that is independent of the control electronics.